

## § 87.62

Kinematic viscosity at  $-20^{\circ}\text{C}$ ,  $\text{mm}^2/\text{s}$ : 2.5–6.5.  
[62 FR 25366, May 8, 1997]

EFFECTIVE DATE NOTE: At 77 FR 36386, June 18, 2012, § 87.61 was removed, effective July 18, 2012.

### § 87.62 Test procedure (propulsion engines).

(a)(1) The engine shall be tested in each of the following engine operating modes which simulate aircraft operation to determine its mass emission rates. The actual power setting, when corrected to standard day conditions, should correspond to the following percentages of rated output. Analytical correction for variations from reference day conditions and minor variations in actual power setting should be specified and/or approved by the Secretary:

Mode	Class		
	TP	TF, T3, T8	TSS
Taxi/idle .....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Takeoff .....	100	100	100
Climbout .....	90	85	65
Descent .....	NA	NA	15
Approach .....	30	30	34

<sup>1</sup> See paragraph (a)(2) of this section.

(2) The taxi/idle operating modes shall be carried out at a power setting of 7% rated thrust unless the Secretary determines that the unique characteristics of an engine model undergoing certification testing at 7% would result in substantially different HC and CO emissions than if the engine model were tested at the manufacturers recommended idle power setting. In such cases the Secretary shall specify an alternative test condition.

(3) The times in mode (TIM) shall be as specified below:

Mode	Class		
	TP	TF, T3 or T8	TSS
Taxi/idle (minutes) .....	26.0	26.0	26.0
Takeoff .....	0.5	0.7	1.2
Climbout .....	2.5	2.2	2.0
Descent .....	N/A	N/A	1.2
Approach .....	4.5	4.0	2.3

(b) Emissions testing shall be conducted on warmed-up engines which

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have achieved a steady operating temperature.

[47 FR 58470, Dec. 30, 1982, as amended at 62 FR 25366, May 8, 1997]

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### § 87.63 [Reserved]

EFFECTIVE DATE NOTE: At 77 FR 36386, June 18, 2012, reserved § 87.63 was removed, effective July 18, 2012.

### § 87.64 Sampling and analytical procedures for measuring gaseous exhaust emissions.

(a) The system and procedures for sampling and measurement of gaseous emissions shall be as specified by Appendices 3 and 5 to ICAO Annex 16 (incorporated by reference in § 87.8).

(b) Starting January 1, 2011, report  $\text{CO}_2$  values along with your emission levels of regulated  $\text{NO}_x$  to the Administrator for engines of a type or model of which the date of manufacture of the first individual production model was on or after January 1, 2011. By January 1, 2011, report  $\text{CO}_2$  values along with your emission levels of regulated  $\text{NO}_x$  to the Administrator for engines currently in production and of a type or model for which the date of manufacture of the individual engine was before January 1, 2011. Round  $\text{CO}_2$  to the nearest 1 g/kiloneutron rO.

(c) Report  $\text{CO}_2$  by calculation from fuel mass flow rate measurements in Appendices 3 and 5 to ICAO Annex 16, volume II or alternatively, according to the measurement criteria of  $\text{CO}_2$  in Appendices 3 and 5 to ICAO Annex 16, volume II.

[74 FR 56374, Oct. 30, 2009]

EFFECTIVE DATE NOTE: At 77 FR 36386, June 18, 2012, § 87.64 was amended by removing and reserving paragraph (a), effective July 18, 2012.

### §§ 87.65–87.70 [Reserved]

EFFECTIVE DATE NOTE: At 77 FR 36386, June 18, 2012, reserved §§ 87.65–87.70 were removed, effective July 18, 2012.

### § 87.71 Compliance with gaseous emission standards.

Compliance with each gaseous emission standard by an aircraft engine